

Claims

What is claimed is:

1. A nucleic acid array comprising:
 - a solid support
 - a plurality of nucleic acid probes attached to the solid support at discrete locations, wherein at least one of the probes is an alien probe in that it has a sequence that is alien to a hybridizing mixture to be hybridized to the array.
2. The nucleic acid array of claim 1, wherein the hybridizing mixture comprises nucleic acids from a source selected from the group consisting of human mRNA, human cDNA, mouse cDNA, mouse mRNA, and combinations thereof.
3. The nucleic acid array of claim 1, wherein the alien probe is present in each discrete location on the solid support.
4. A method comprising steps of:
 - providing a hybridizing mixture comprising a plurality of nucleic acids; and
 - hybridizing the hybridizing mixture to a nucleic acid array comprising:
 - a solid support; and
 - a plurality of nucleic acid probes attached to the solid support at discrete locations, wherein at least one of the probes is an alien probe in that it has a sequence that is alien to a hybridizing mixture to be hybridized to the array.
5. The method of claim 4, wherein the step of providing a hybridizing mixture comprises providing a mixture containing at least one anti-alien hybridizing nucleic acid whose sequence comprises a sequence complementary to the alien probe.
6. The method of claim 4, further comprising a step of:
 - measuring hybridization between the anti-alien hybridizing nucleic acid and the alien probe.

7. The method of claim 6, wherein:
 - the hybridizing mixture contains both the anti-alien hybridizing nucleic acid and at least one experimental hybridizing nucleic acid of unknown quantity; and
 - the plurality of probes attached to the microarray includes at least one cognate probe whose sequence is complementary to at least part of the experimental hybridizing nucleic acid.
8. The method of claim 7, further comprising a step of:
 - measuring hybridization between the experimental hybridizing nucleic acid and the cognate probe.
9. The method of claim 8, further comprising a step of:
 - comparing the measured hybridization between the anti-alien hybridizing nucleic acid and the alien probe with the measured hybridization between the experimental hybridizing nucleic acid, thereby determining how much hybridizing nucleic acid was present in the hybridizing mixture.
10. The method of claim 5, wherein the step of providing a hybridizing mixture comprises providing a mixture containing at least one anti-alien hybridizing nucleic acid whose sequence comprises a sequence complementary to the alien probe and also containing at least one experimental hybridizing nucleic acid, the method further comprising steps of:
 - processing the hybridizing mixture such that the anti-alien and experimental hybridizing nucleic acids are simultaneously subjected to identical treatments;
 - hybridizing the hybridizing mixture to the array; and
 - measuring hybridization of the anti-alien hybridizing nucleic acid to the alien probe such that information about efficiency or accurateness of the processing or hybridizing steps is revealed.
11. The method of claim 5, wherein the step of providing a hybridizing mixture comprises providing a known amount of at least one anti-alien hybridizing nucleic

acid whose sequence comprises a sequence complementary to the alien probe, the method further comprising steps of:

hybridizing the hybridizing mixture to the array; and

measuring hybridization of the anti-alien hybridizing nucleic acid to the alien probe such that information about quality of the array is revealed.

12. The method of claim 11, wherein the step of providing a hybridizing mixture does not include providing experimental hybridizing nucleic acids, and the hybridizing step is performed prior to exposing the array to experimental hybridizing nucleic acids.
13. The method of claim 11, wherein at least one alien probe is present in each discrete location on the array.